

PATENT  
Serial No. 10/535,056  
Amendment in Reply to Office Action of January 17, 2007

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) ~~Travelling-wave~~ A traveling-wave amplifier comprising ~~two~~ transmission lines, and at least two amplifiers, said at least two amplifiers being coupled anti-parallel to said transmission lines, wherein a phase of said at least two amplifiers provides phase matching.

2. (Currently amended) ~~Travelling-wave~~ The traveling-wave amplifier according to claim 1, ~~wherein further comprising coupling means are provided for coupling~~ said at least two amplifiers to said transmission lines, respectively.

3. (Currently amended) ~~Travelling-wave~~ The traveling-wave amplifier according to claim 1, wherein ~~said coupling of an input~~

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port of one amplifier of said at least two amplifier amplifiers to one of said transmission lines is spatial by set off from the a coupling of an output port of said one amplifier to the other of said at least two transmission lines.

4. (Currently amended) ~~Travelling-wave~~ The traveling-wave amplifier according to claim 2, wherein said coupling means are electrical connections.

5. (Currently amended) ~~Travelling-wave~~ The traveling-wave amplifier according to claim 2, wherein said coupling means are directional coupling circuits.

6. (Currently amended) ~~Travelling-wave~~ The traveling-wave amplifier according to claim 1, wherein the phase of the output signal of said amplifiers is matched with the phase of the ~~travelling-wave~~ traveling-wave on the respective transmission line.

7. (Currently amended) ~~Travelling-wave~~ A traveling-wave amplifier according to claim 3, comprising transmission lines, and

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at least two amplifiers, said at least two amplifiers being coupled anti-parallel to said transmission lines, wherein coupling of an input port of one amplifier of said at least two amplifiers to one of said transmission lines has a spatial offset from a coupling of an output port of said one amplifier to the other of said at least two transmission lines, and wherein said spatial offset provides said phase matching.

Claim 8 (Canceled)

9. (Currently amended) ~~Travelling-wave~~ A traveling-wave amplifier according to claim 2, comprising transmission lines, at least two amplifiers, and coupling means for coupling said at least two amplifiers to said transmission lines, respectively, said at least two amplifiers being coupled anti-parallel to said transmission lines, wherein said coupling means provide said phase matching.

10. (Currently amended) ~~Travelling-wave~~ The traveling-wave amplifier according to claim 1, wherein said amplifiers retrieve

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DC-bias voltage from said transmission lines.

11. (Currently amended) ~~Method A~~ method for providing ~~travelling-wave traveling-wave~~ amplification, ~~in particular with a travelling-wave traveling-wave amplifier according to claim 1, with two having~~ transmission lines and at least two amplifiers, where ~~said travelling-waves wherein traveling-wave~~ at said transmission lines have a phase difference of  $180^\circ$ , ~~where the method comprising~~ the acts of:

feeding an output of a pair of said amplifiers ~~is fed to said~~ transmission lines anti-parallel such that the ~~travelling-wave traveling-wave~~ of a first transmission line is fed to a first amplifier,

adding by said first amplifier ~~adds an amplified signal to the travelling-wave traveling-wave~~ of said second transmission line, and

feeding the travelling-wave traveling-wave of said second transmission line ~~is fed to a second amplifier, and~~

adding by said second amplifier ~~adds an amplified signal to the travelling-wave traveling-wave~~ of said first transmission line.

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12. (Currently amended) Use of ~~travelling wave amplifiers~~ the traveling-wave amplifier according to claim 1, in optical switch matrices, optical communication systems, RF wideband products, microwave communication, set-top boxes for satellite TV or satellite communication, anti-collision radar, wireless local loops, advanced IC processors such as GaAs and InP processes.